

L Number	Hits	Search Text	DB	Time stamp
2	0	(carbohydrate near8 (modified or derivatized) or near15 aglycon) same (particulate or gold or silica or chip or sensor)	USPAT; EPO; DERWENT	2004/05/17 09:06
1	5	carbohydrate near8 (modified or derivatized) near15 aglycon	USPAT; EPO; DERWENT	2004/05/17 09:08

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'AGRICOLA' ENTERED AT 09:09:15 ON 17 MAY 2004

FILE 'BIOTECHNO' ENTERED AT 09:09:15 ON 17 MAY 2004

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=> carbohydrate(6A) (derivative or derivatized or derivatization or
modification) (12A) aglycon

L1	0 FILE AGRICOLA
L2	1 FILE BIOTECHNO
L3	0 FILE CONFSCI
L4	0 FILE HEALSAFE
L5	0 FILE IMSDRUGCONF
L6	0 FILE LIFESCI
L7	0 FILE MEDICONF
L8	0 FILE PASCAL

TOTAL FOR ALL FILES

L9	1 CARBOHYDRATE(6A) (DERIVATIVE OR DERIVATIZED OR DERIVATIZATION OR MODIFICATION) (12A) AGLYCON
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=> d 12 ibib abs total

L2 ANSWER 1 OF 1 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1984:14077845 BIOTECHNO

TITLE: Binding of simple carbohydrates and some of their
chromophoric derivatives to soybean agglutinin as
followed by titrimetric procedures and stopped flow
kinetics

AUTHOR: De Boeck H.; Lis H.; Van Tilbeurgh H.; et al.

CORPORATE SOURCE: Laboratory of Biochemistry, Faculty of Sciences, State
University of Gent, Gent, Belgium.

SOURCE: Journal of Biological Chemistry, (1984), 259/11
 (7067-7074)
 CODEN: JBCHA3
 DOCUMENT TYPE: Journal; Article
 COUNTRY: United States
 LANGUAGE: English
 AN 1984:14077845 BIOTECHNO
 AB The number of carbohydrate-binding sites of the GalNAc-specific lectin is four per tetramer. The binding parameters of N-acetyl-D-galactosamine and methyl-N-acetyl- α -D-galactosaminide, were determined by titrating the perturbation in the absorption spectrum of the protein. For D-galactosides, it was necessary to use p-nitrophenyl-N-acetyl- β -D-galactosaminide as an indicator in substitution titrations. The association constants K were determined at several temperatures yielding 2.4×10^{14} M⁻¹ at 25°C with $\Delta H^\circ = -45$ kJ mol⁻¹ and $\Delta S^\circ = -67$ J middot K⁻¹ mol⁻¹ for methyl-N-acetyl- α -D-galactosaminide and 1.0×10^{13} M⁻¹ at 25°C, $\Delta H^\circ = -38$ kJ mol⁻¹ and $\Delta S^\circ = -69$ J middot K⁻¹ mol⁻¹ for methyl- α -D-galactoside. The increase in K by a factor of 25 caused by the acetamido group is largely enthalpic. Whenever different methods were used to determine the association constant of a given compound, the agreement was excellent. The observed changes in absorption of fluorescence of all chromophoric carbohydrate derivatives used are specific for the binding of carbohydrates. For large aromatic β -glycons such as p-nitrophenyl or 4-methylumbelliferyl groups, the increase in K of the N-acetyl-D-galactosaminide moiety is by a factor of 2 or less, but for a large N-5-dimethylaminonaphthalene-1-sulfonyl (dansyl) group this factor is about 20 as compared with the acetyl group. The concomitant 10-fold increase in dansyl fluorescence, also observed with four other GalNAc-binding lectins together with a favorable and large $\Delta S^\circ = +60$ J middot K⁻¹ mol⁻¹ strongly point at the presence of a hydrophobic region in the vicinity of the carbohydrate-binding site. The results of stopped flow kinetics with 4-methylumbelliferyl-N-acetyl- β -D-galactosaminide and the lectin are consistent with a simple mechanism for which $k_{sub+} = 1.1 \times 10^{14}$ M⁻¹ s⁻¹ and $k_{sub-} = 0.4$ s⁻¹ at 25°C. The k_{sub-} is slower than for any monosaccharide-lectin complex reported so far.

=> file .chemistry		SINCE FILE ENTRY	TOTAL SESSION
COST IN U.S. DOLLARS			
FULL ESTIMATED COST		8.48	8.69

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FILE 'USPATFULL' ENTERED AT 09:11:15 ON 17 MAY 2004

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=> carbohydrate(6A) (derivative or derivatized or derivatization or
modification) (12A) aglycon
L10 3 FILE CAPLUS
L11 1 FILE BIOTECHNO
L12 0 FILE COMPENDEX
L13 0 FILE ANABSTR
L14 0 FILE CERAB
L15 0 FILE METADEX
L16 2 FILE USPATFULL

TOTAL FOR ALL FILES

L17 6 CARBOHYDRATE(6A) (DERIVATIVE OR DERIVATIZED OR DERIVATIZATION OR
MODIFICATION) (12A) AGLYCON

=> l17 and (particle or particulate or gold or silica or chip or sensor)
L18 1 FILE CAPLUS
L19 0 FILE BIOTECHNO
L20 0 FILE COMPENDEX
L21 0 FILE ANABSTR
L22 0 FILE CERAB
L23 0 FILE METADEX
L24 2 FILE USPATFULL

TOTAL FOR ALL FILES

L25 3 L17 AND (PARTICLE OR PARTICULATE OR GOLD OR SILICA OR CHIP OR
SENSOR)

=> d 125 ibib abs total

L25 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1964:432785 CAPLUS

DOCUMENT NUMBER: 61:32785

ORIGINAL REFERENCE NO.: 61:5747h,5748a-g

TITLE: Olivomycin. I. Methanolysis

AUTHOR(S): Berlin, Yu. A.; Esipov, S. E.; Kolosov, M. N.;
Shemyakin, M. M.; Brazhnikova, M. G.

CORPORATE SOURCE: U.S.S.R. Acad. Sci., Moscow

SOURCE: Tetrahedron Letters (1964), (21-22), 1323-8

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB (Rf values were determined by paper chromatography on Whatman number 2 paper in
4:1:5 BuOH-EtOH-H₂O). From Streptomyces olivoreticuli was isolated an
antibiotic mixture and given the name "olivomycin" (CA 60, 11851e; Gauze, et
al., CA 60, 9629b.) This mixture separated by chromatography on silica
gel and countercurrent distribution (400 transfers in the system
10:14:10:13 EtOH-EtOAc-hexane-H₂O) gave 60-5% principal antibiotic of this
complex, designated further as olivomycin (I), m. 160-5°
(EtOAc-hexane), [α]25D -35.5° (c 0.5, EtOH), Rf 0.85, which
underwent almost no change on addition of acid or alkali, mol. weight
(determined

thermoelec. in EtOAc) 1250-1350. To I was ascribed formula
C₆₁-5H₉₀-8O₂₇-9, on the basis of its mol. weight and elementary analysis.
Based on a mol. weight of 1300, I was found to contain 2 MeO groups, 8 MeC
groups, 13 active H atoms, and 3 O-acyl groups, the latter being formyl
(9.3 p.p.m.), acetyl, and isobutyryl. I refluxed 3 hrs. in 0.1N

MeOH-H₂SO₄ gave several **carbohydrate derivs.** and an **aglycon**, called olivin (II), C₁₉-21H₂₂-4O₉-10, m. 189-91° (EtOAc-C₆H₅ or EtOH-CHCl₃-hexane), $[\alpha]_{25D}$ 60.5° (c 0.5, EtOH). Functional analysis and the nuclear magnetic resonance (n.m.r.) spectrum of II indicated the presence of 5-6 active H atoms, MeO (δ 3.35 p.p.m.), MeCH group (doublet at 1.3 p.p.m.), and a proton which should be in a cyclopropane ring (n.m.r. multiplet at 1.0 p.p.m.). II contained no low mol. weight O-acyl groups. On acetylation (Ac₂O-C₅H₅N, 24 hrs. at 20°), II was converted into an acetate (III), C₃₁-3H₃₄-6O₁₅-16, m. 200-2° (CHCl₃-EtOAc), $[\alpha]_{22D}$ -7.3° (c 1.3, CHCl₃). III contained 6 Ac groups (several peaks of 18 protons overall intensity in the range 2.0-2.5 p.p.m.), some of which were bound to an aromatic ring through O; possibly conversion of II to III may involve C-alkylation or addition of AcOH. From the mixture of carbohydrate derivs. obtained in the methanolysis of II, several components were isolated by absorption chromatography on Al₂O₃, the most important being derivs. of 3 sugars called olivomycose (IV), olivomose (V), and olivose (VI). Of these compds., the highest chromatographic mobility was displayed by 2 substances of composition C₁₂H₂₂O₅, which proved to be anomeric Me glycosides of O-isobutyrylolivomycose, namely, Me O-isobutyrylolivomycoside A (VII), $[\alpha]_{25D}$ -123° (c 0.6, EtOH), and Me O-isobutyrylolivomyeoside B (VIII), $[\alpha]_{25D}$ 29° (c 1.5, EtOH). Saponification of VII and VIII by 0.4N aq. alc.-NaOH (4 hrs. at 20°) gave Me₂CHCO₂H (anilide m. 104-5°) and 2 Me olivomycosides, C₈H₁₆O₄ [Me olivomycoside A, $[\alpha]_{22D}$ -147° (c 1.0, EtOH), Rf 0.77], and Me olivomycoside B, m. 93-4° (hexane), $[\alpha]_{23D}$ 50° (c 1.0, EtOH), Rf 0.73, which on hydrolysis with 0.2N H₂SO₄ gave IV, C₇H₁₄O₄, m. 103-6° (Me₂COEt₂O), $[\alpha]_{26D}$ -13° (immediate) and -22° (after 20 min. and 1.5 hrs.) (c 1.1, H₂O), containing 3 OH groups (including the glycoside OH) and 2 C-Me groups. Evidently, IV was a branched-chain trideoxyheptose, C₅H₅O(Me)₂(OH)₃. Two other carbohydrate products of the methanolysis of II were anomeric Me olivomosides, C₈H₁₆O₄, which contained an OH, MeO, and MeCH group besides the glycoside MeO. Me olivomoside A (IX), m. 98° (hexane), $[\alpha]_{26D}$ 150° (c 0.4, EtOH); Me olivomoside B (X) m. 152-3° (hexane), $[\alpha]_{26D}$ -37.5° (c 0.4, EtOH). Acid hydrolysis of IX and X gave V, C₇H₁₄O₄, m. 158-62° (Me₂CO), $[\alpha]_{23D}$ 98.5° (immediate) and 89° (after 1 and 1.5 hrs.) (c 0.5, H₂O), Rf 0.65. V did not undergo HIO₄ oxidation and, in view of its other properties, was assigned structure 2,6-dideoxy-4-O-methyl-D-hexose; IX and X were α - and β -Me glycosides, resp. Another pair of carbohydrate methanolysis products were the Me olivosides, C₇H₁₄O₄, which contained a MeCH group (81.2 p.p.m.) and 2 vicinal OH groups (consumption of 1 mole NaIO₄). Only Me olivoside A (XI), $[\alpha]_{25D}$ 131° (c 0.75, EtOH), Rf 0.75, was isolated in the pure state. Me olivoside B (XII), Rf 0.72, was contaminated with XI. XI was converted by MeOH-HCl into a mixture of XI and XII. Hydrolysis of XI and XII gave VI, C₆H₁₂O₄, $[\alpha]_{26D}$ 45° (c 0.5, H₂O), Rf 0.54. On the basis of chemical properties and its spectrum, VI was assigned structure 2,6-dideoxy-D-hexose. Acid hydrolysis of I (0.1N H₂SO₄ in aqueous THF at 75°) gave II and a mixture of carbohydrates, containing among other compds., IV (together with O-isobutyrylolivomycose), V, and VI. However, because of the lability of free deoxy sugars under hydrolytic conditions, this degradation was less convenient than methanolysis. It was concluded that I consisted of the aglycon II and deoxy sugar residues, at least partly bound by phenolic or enolic glycoside bonds. Infrared and ultraviolet data are given.

L25 ANSWER 2 OF 3 USPATFULL on STN

ACCESSION NUMBER: 2001:144135 USPATFULL

TITLE: Immobilized carbohydrate biosensor

INVENTOR(S): Nilsson, Kurt, Lund, Sweden

Mandenius, Carl-Fredrik, Huddinge, Sweden

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001017270	A1	20010830
APPLICATION INFO.:	US 2001-766659	A1	20010123 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-356229, filed on 19 Dec 1994, GRANTED, Pat. No. US 6231733 Continuation of Ser. No. WO 1994-SE343, filed on 18 Apr 1994, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	SE 1993-1270	19930417
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	SMITH GAMBRELL & RUSSELL, L.L.P., Suite 800, 1850 M Street, N.W., Washington, DC, 20036	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
LINE COUNT:	344	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention refers to a biosensor in which an immobilized carbohydrate or a derivative thereof is used to generate a detectable signal when a protein, a virus or a cell is bound to the carbohydrate surface. The **sensor** is an optical **sensor**, a piezoelectric **sensor**, an electrochemical electrode or a thermistor. A method of binding carbohydrates to a **gold** surface is also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L25 ANSWER 3 OF 3 USPATFULL on STN
 ACCESSION NUMBER: 2001:70970 USPATFULL
 TITLE: Immobilized carbohydrate biosensor
 INVENTOR(S): Nilsson, Kurt, Andjaktsv. 6, S-226 53, Lund, Sweden
 Mandenius, Carl-Fredrik, Stromkarlsv. 36, S-141 42,
 Huddinge, Sweden

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6231733	B1	20010515
APPLICATION INFO.:	US 1994-356229		19941219 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 1994-SE343, filed on 18 Apr 1994, now abandoned		

	NUMBER	DATE
PRIORITY INFORMATION:	SE 1993-1270	19930417
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Chin, Christopher L.	
ASSISTANT EXAMINER:	Nguyen, Bao-Thuy L.	
LEGAL REPRESENTATIVE:	Smith, Gambrell & Russell, L.L.P.	
NUMBER OF CLAIMS:	58	
EXEMPLARY CLAIM:	1	
LINE COUNT:	496	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A biosensor in which a carbohydrate or a derivative of a carbohydrate is used to generate a detectable signal by way of the specific binding to a protein, a virus or a cell.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.